UNITED STATES PATENT AND TRADEMARK OFFICE

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10/069,480	02/27/2002	Kazuyuki Miya	L9289.02130	3434

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EXAMINER
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ART UNIT	PAPER NUMBER
2455	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _10 September 2008_.
2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _38-50_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _38-50_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

RESPONSE TO AMENDMENT

1.   This communication is responsive to the amendment received on September 10, 2008.

Claims 38-50 have been amended.

Claims 1-37 were previously cancelled.

Claims 38-50 are pending further examination.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims   38-39, 42, 43-47, and 50 are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Mohebbi** (hereinafter referred to as Mohebbi) U.S. Patent **6,889,046** in view

of **Nakajima et al.,** (hereinafter referred to as Nakajima) U.S. Patent No. **5,940,769.**

Mohebbi teaches a mobile station that is capable of receiving a downlink signal from

each of a plurality of base stations and transmitting an uplink signal to the plurality of the base

stations through a wireless channel. The mobile station produces a measure of signal quality of

the downlink signals from the plurality of base stations to the mobile station and selects a base

station from which the downlink signal shows a preferred signal quality. The mobile station

transmits an uplink signal indicating the selected base station among the plurality of base stations

for subsequent communications with the mobile station. Each base station processes the uplink

signal to identify the selected base station from among the plurality of base stations (see

abstract).

4.   As to claim 38, Mohebbi teaches a fast packet transmission system comprising a

communication terminal and a plurality of base stations, wherein: the communication terminal

comprises:

a selector that selects a base station to communicate a packet in a next transmission unit

according to channel states between the communication terminal and base stations (refer to col.

4, lines 34-52, the mobile station selects a base station according to channel states between the

base station and the mobile station); and

a terminal transmitter that communicates acknowledgment or negative acknowledgment

information indicating whether an error is detected in the received packet, packet number

information indicating the packet number of the received packet, and base station selection

information indicating the selected base station, to the base stations; and

each base station comprises:

a determiner that determines whether to communicate the packet in the next transmission

unit based on the base station selection information (refer to col. 4, lines 34-52, a base station

determines whether it is the selected base station);

a controller that determines a transmission target packet based on the acknowledgment or

negative acknowledgment information and packet number information when the base station

communicates the packet in the next transmission unit (refer to col. 4, lines 34-52, the base

station determines the next packet to transmit to the mobile station); and

a base station transmitter that communicates the transmission target packet determined in

the controller to the communication terminal (refer to col. 4, lines 34-52, the base station

transmits the packets).

Although the features of error detection and ACK and NACK of a received packet is

implicitly taught in the system of Mohebbi, Mohebbi fails to explicitly teach an error detector

that detects an error in a received packet; a determiner that determines a packet number of the

received packet; and a terminal transmitter that communicates acknowledgment or negative

acknowledgment information indicating whether an error is detected in the received packet,

request packet number information indicating the packet number of a packet that is requested to

be communicated in the next transmission unit .

Nakajima explicitly teaches the features of error detection and specifically re-send

control. Nakajima teaches:

> A sequence number and redundancy bits for detecting error are added to a
> data packet. First, N-th data packet is transmitted from the base station 101
> to the mobile station 102. In the mobile station 102, presence of error is
> checked by using the redundancy bits for detecting and correcting error. When
> no error is found, as shown in FIG. 2, **ACK (affirmative response)** showing that
> the N-th data packet is received correctly is transmitted to the base station
> 101. The base station 101, when receiving ACK, transmits the _next (N+1)-th_
> _data packet to the mobile station 102._ In the second base station 102,
> checking error similarly, and if error is found, as shown in FIG. 2, **NAK**
> **(negative response)** showing that error is contained in the (N+1)-th data packet
> is transmitted to the first base station 101. The base station 101, when receiving NAK,
> _re-sends the (N+1)-th data packet to the mobile station 102._ In the second base station
> 102, checking error similarly, and when no error is found, as shown in FIG. 2, ACK
> showing that the (N+1)-th data packet is received correctly is transmitted to the base
> station 101. After receiving ACK, the base station 101 transmits next data to
> the mobile station 102. (refer to col. 1, line 50 –col. 2, line 3, emphasis added)

It would have been obvious to one of ordinary skill in the art at the time of applicant's

invention to incorporate the teaching of Nakajima's error detection into the invention of

Mohebbi in order to detect error in a received packet and to enable a mobile station to detect the

occurrence of an error in a received packet and to take corrective measures.

5.   As to claim 39, Mohebbi teaches the fast packet transmission system according to claim 38, wherein the terminal transmitter communicates the packet number information to the base stations only when the base station that communicates the packet is switched (refer to col. 4, lines 34-52).

6.   As to claim 42, Mohebbi teaches the fast packet transmission system according to claim 38, wherein the terminal transmitter communicates the request packet number information with transmit power higher than transmit power of other information (col. 7, lines 15-24.

7.   Claims 40-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mohebbi** (hereinafter referred to as Mohebbi) U.S. Patent **6,889,046** in view of **Nakajima et al.,** (hereinafter referred to as Nakajima) U.S. Patent No. **5,940,769.** and further in view of **Parkvall et al.,** (hereinafter referred to as Parkvall) U.S. Patent No. **6,542,736.**

8.   As to claims 40-41, Mohebbi teach the system as described above. Mohebbi does not explicitly teach wherein the communication terminal identifies, in the communication identifying the next packet to be communicated, the type of modulation the selected base station is to use in communicating the next packet.

       Parkvall teaches data communications in a radio communications system, and more specifically, to adaptation of a radio link to a mobile terminal based on current radio communication conditions. Link adaptation may be accomplished by changing the transmit power of the base station, e.g., increasing the transmit power level for data transmitted to mobile terminals with a bad channel quality. Link adaptation may also be accomplished by changing the type of modulation and amount of channel coding applied to the data to be transmitted by the base station (see abstract, col. 2, lines 37-56).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the teaching of Parkvall into the invention of Mohebbi in order to be able attain better channel quality and to maximize the data transmission rate.

9.   As to claim 43-50, they do not teach or define any new limitations above claims 38-42; therefore, they are rejected for similar reasons.

10.   Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in its entirety as potentially teaching of all or part of the claimed invention, as well as the context.

Response to Arguments

11.   Applicant's amendment and arguments received on September 10, 2008 have been fully considered but are not deemed to be persuasive. The applicant argues in substance that Mohebbi in view of Nakajima do not teach the newly amended limitation "request packet number information indicating the packet number of a packet that is requested to be communicated in the next transmission unit" at recited at least in the independent claims.

The examiner respectfully disagrees and directs the applicant attention to the specific portion of Nakajima illustrated above and reproduced below for convenience:

A sequence number and redundancy bits for detecting error are added to a data packet. First, N-th data packet is transmitted from the base station 101 to the mobile station 102. In the mobile station 102, presence of error is checked by using the redundancy bits for detecting and correcting error. When no error is found, as shown in FIG. 2, **ACK (affirmative response)** showing that the N-th data packet is received correctly is transmitted to the base station

101.   The base station 101, when receiving ACK, transmits the _next (N+1)-th_
data packet to the mobile station 102. In the second base station 102,
checking error similarly, and if error is found, as shown in FIG. 2,__NAK__
__(negative response)__ showing that error is contained in the (N+1)-th data packet
is transmitted to the first base station 101. The base station 101, when receiving NAK,
re-sends the (N+1)-th data packet to the mobile station 102. In the second base station
102, checking error similarly, and when no error is found, as shown in FIG. 2, ACK
showing that the (N+1)-th data packet is received correctly is transmitted to the base
station 101. After receiving ACK, the base station 101 transmits next data to
the mobile station 102. (refer to col. 1, line 50 –col. 2, line 3, emphasis added)

As can be seen if a ACK is transmitted then the ACK will inherently point ot direct the

base station to transmit the next packet (equated to the claimed request packet) to the mobile

station. on the other hand if a NAK is transmitted the NAK will inherently point to or direct the

base station to retransmit the same packet (equated to the claimed request packet) to the mobile

station. Therefore Mohebbi in view of Nakajima meet the scope of the claimed limitation as

currently presented.

Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Contact Information

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Shawki S Ismail whose telephone number is 571-272-3985. The

examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh

Najjar can be reached on 571-272-4006. The fax phone number for the organization where this

application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Shawki S Ismail/
Examiner, Art Unit 2455
December 4, 2008

/saleh najjar/

Supervisory Patent Examiner, Art Unit 2455